

GERMAN EMPIRE



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**PATENT DOCUMENT**

– No. 390937 –

CLASS18c, GROUP 5/40  
(E 28588 VI/18c)

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Adolf Erb in Berlin.

Device to heat the interior of tank ovens for hardening, annealing, full annealing, tempering, and melting.

Patented in the German Empire as of October 13, 1922.

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In known devices to heat a tank oven for hardening, annealing, full annealing and tempering procedures, the tanks are burned through at a relatively high rate of fuel consumption.

If hardened materials are to be re-melted in the tank oven, it may often occur that the tanks burst open at the bottom if heated too quickly. Conical stoppers inserted into the hardened mass cannot always prevent this.

Replacement of the tanks and, as applicable, loss of the tank contents represents a significant expense which may place such use in question under certain circumstances.

According to the invention, burning through of the tank is excluded in that the principle of internal heating known in firing techniques is applied.

The Figure shows an embodiment example of the device.

The tank *B*, which is preferably covered with an insulating coating *C*, rests on the masonry structure *A*.

Filling of the tank is determined by the temperatures required for the intended heating.

The device is formed as a fire tube, and possesses a burner *D* located outside the tank that is visible and thus easily controlled. The hot gases are passed through lightly crimped tubes *E* along the bottom of the tank, and dissipate through the extraction tube *F*.

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Claim 1:

Device to heat the interior of tank furnaces for hardening, annealing, full annealing, tempering, and melting, characterized in that tubes are installed in the tank that carry heating gases.